United States Environmental Protection Agency | Office of Solid Waste and Emergency Response (5101) | EPA/540/F-03/011 OSWER 9200.1-47FS May 2003

Using Dynamic Field Activities for On-Site Decision Making

Announcing new OSWER One Cleanup Program guidance

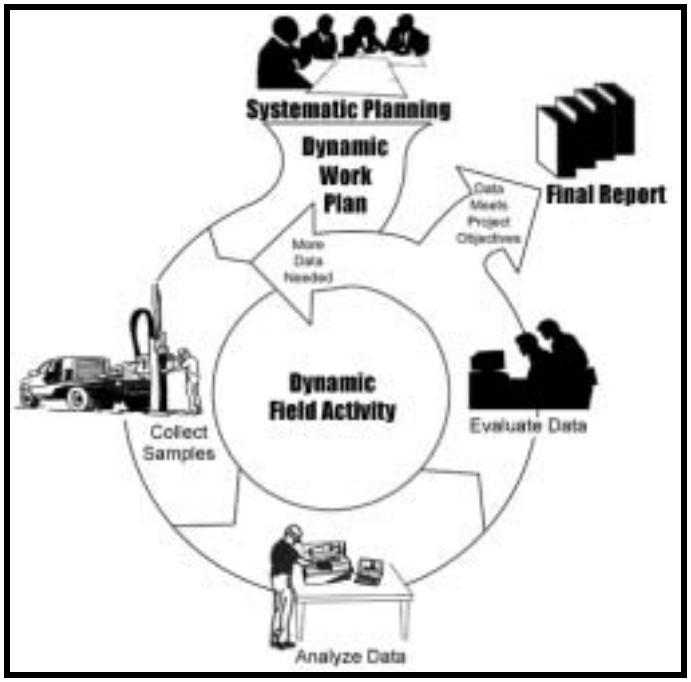
What are dynamic field activities?

Dynamic field activities are contaminated site work that combine on-site data generation with on-site decision making. The term "dynamic" is used because these field activities are designed to incorporate changes as new information is obtained, thus, accommodating the iterative nature of field work. Their successful implementation necessitates using systematic planning, dynamic work plans, and rapid analytical results.

Dynamic field activities help project managers reach site decisions while avoiding numerous planning efforts and field mobilizations that would otherwise be necessary. By increasing the efficiency of field work, they have the potential to significantly reduce the time and cost of site activities. The ability to take more samples and the improved sample selection process can result in higher quality site decisions. In addition, by using a flexible approach to field work, they are applicable to all types of data collection activities (e.g., initial site screening, characterization, remediation, monitoring).

What is the purpose of the guidance?

The primary purpose of this guidance is to provide contaminated site project managers with an overview of the information they need to oversee the effective implementation of dynamic field activities at their sites. Additionally, the guidance should help educate other key decision-makers (e.g., relevant U.S. EPA personnel, contractors, other federal and state agencies, and potentially responsible parties) about their roles in implementing this process.



Are there any documented benefits to conducting dynamic field activities?

Dynamic field activities have demonstrated significant savings in time and cost while improving decision making at a number of contaminated sites. The guidance includes three case studies, each providing an example for how this approach has been used for characterization, remediation, and treatment system optimization. It also includes a summary of five previously reported dynamic field activities. The documented benefits for all of the sites indicates a range of cost savings from 15 to 50 percent and a temporal savings ranging from 33 to 60 percent. For example, the characterization case study covers the CERCLA activities at the Marine Corps Air

Station in Tustin, California between July 1995 and June 1996. The field work at this site was completed in a single mobilization using field-based analytical methods to provide data for on-site decision making. This case study concluded that this process:

- Cut planning, investigation, and reporting time by over 60% and cut project costs by at least 15%;
- Reduced U.S. EPA administrative oversight for the review of work plans and reports;
- Increased confidence among regulators that the site had been fully characterized; and
- Provided defensible data for effective on-site decision-making.

What are some considerations?

The following are important for a successful dynamic field activity:

- Additional up-front planning to allow projects to adjust activities based on to new data;
- Additional up-front budgeting so that planned contingencies can be utilized;
- Methods to provide rapid analytical results;
- Increase Agency oversight during planning and field activities so that remobilizations can be minimized;
- Experienced technical staff to evaluate data and make decisions; and
- Real-time management, interpretation, and documentation of data.

What are some existing resources?

Along with this guidance, project managers should continue to use expertise available from their regions, U.S. Army Corps of Engineers, and contractors to develop and manage these projects. Valuable information is also available on the Internet, such as:

EPA Office of Emergency and Remedial Response (OERR):
http://www.epa.gov/superfund/programs/dfa
- View draft guidance chapters, link to related web sites, articles/papers, and conference proceedings.

***EPA Technology Innovation Office (TIO)*:**
http://www.clu-in.org
- Contains numerous documents and resources for using innovative characterization technologies.

What does the guidance include?

Chapter I - Introduction
An overview of the guidance, its purpose, audience, and how it can be effectively used.

Chapter II - Overview of On-Site Decision-Making Process
An overview of the activities needed to successfully implement on-site decision making, how the process can be applied to different phases of field work, and some of the special considerations that are needed for proper implementation.

Chapter III - Managing Dynamic Field Activities
Provides project managers with information on developing a dynamic work plan, ensuring that qualified staff work on the project, and overseeing site activities.

Chapter IV - Key Considerations for Meeting Project Requirements with Field-Based Analytical Methods
Describes the steps that should be followed to ensure field-based analytical methods generate data that are scientifically and legally defensible for on-site decision making.

Chapter V - Dynamic Field Activity Case Study Summaries
Provides brief examples of how on-site decision-making processes have been used at different sites. Examples include soil and groundwater characterization; soil and sediment cleanup; and treatment system optimization. In addition, three examples of a dynamic approach being applied during initial site screening are provided.

Comments or Suggestions?

Please Contact:
Robert Hitzig
U.S. EPA
1200 Pennsylvania Avenue, N.W.
Mailcode: 5204G
Washington, D.C. 20460
(703) 603-9047
FAX: (703) 603-9112
E-mail: hitzig.robert@epa.gov